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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/892,893	06/28/2001	Yoshikazu Ibara	010834	1585

23850 7590 08/01/2002

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EXAMINER

COLEMAN, WILLIAM D

ART UNIT PAPER NUMBER

2823

DATE MAILED: 08/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/892,893		IBARA ET AL.	
	Examiner		Art Unit	
	W. David Coleman		2823	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).
4. Claims 1-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Wieczorek et al., U.S. Patent 6,207,563.

5. Pertaining to claim 1, see **FIGS. 4-7**, where Wieczorek teaches a method for forming a silicide conductive structure on a semiconductor device, the method comprising:

depositing metal **66** on the surface of a patterned semiconductor film;

heat treating the semiconductor film on which the metal is deposited; removing residual metal that did not react during the heat treating step; and

repeating the depositing step, the heat treating step, and the removing step once or a number of times.

6. Pertaining to claim 2, Wieczorek teaches the method for manufacturing the semiconductor device according to claim 1, further comprising: heat treating the semiconductor film after the repeating step at a temperature that is higher than that of the heat treating step (column 6, lines 57-59 and column 7, lines 61-62).

7. Pertaining to claim 3, Wieczorek teaches the method for manufacturing the semiconductor device according to claim 2, wherein the patterned semiconductor film is an N-type semiconductor (column 6, line 7).

8. Pertaining to claim 4, Wieczorek teaches a method for manufacturing a semiconductor device, comprising:

forming a conductive portion on the substrate, wherein the conductive portion includes a gate electrode; forming a spacer on a side wall of the gate electrode; depositing metal on the surface of the substrate including the conductive portion; applying silicide on the conductive portion in a self-aligned manner by heat treating the substrate on which the metal is deposited; removing residual metal that did not react during the heat treatment; and repeating the depositing step, the silicide applying step, and the removing step once or a number of times.

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9. Pertaining to claim 5, Wieczorek teaches the method for manufacturing the semiconductor device according to claim 4, further comprising:

heat treating the substrate after the repeating step at a temperature that is higher than that of the heat treating

10. Pertaining to claim 6 Wieczorek teaches the method for manufacturing the semiconductor device according to claim 5, wherein the conductive portion to which silicide is applied is an N-type semiconductor.

11. Pertaining to claim 7, Wieczorek teaches the method for manufacturing the semiconductor device according to claim 4, wherein the thickness of the

cm), and the gate electrode is 1,000 Å (10 cm) to 2,500Å (column 5, line 54) heat treating is repeated in a temperature range of 600⁰C to 720⁰C (column 6, line 59).

12. Pertaining to claim 8, Wieczorek teaches the method for manufacturing the semiconductor device according to claim 7, further comprising:

heat treating the substrate after the repeating step for 30 seconds at a temperature of about 850⁰C (column 7, lines 61-62).

13. Pertaining to claim 9, Wieczorek teaches the method for manufacturing the semiconductor device according to claim 8, wherein the conductive portion to which silicide is applied is an N-type semiconductor.

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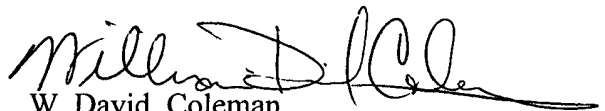
Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to W. David Coleman whose telephone number is 703-305-0004.

The examiner can normally be reached on 9:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael M. Fahmy can be reached on 703-308-4918. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7721 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


W. David Coleman
Examiner
Art Unit 2823

WDC
July 27, 2002